REMARKS

This Amendment is responsive to the office action mailed June 28, 2005 in connection with the above-identified patent application. It addresses each of the rejections and objections posed by the examiner accordingly, reconsideration is respectfully requested.

The examiner has objected to the specification stating that item 102 is first referred to as a "handpiece" and thereafter referred to as an "appliance." It is well settled law that the patentee is his or her own lexicographer and in this case the broader term appliance is preferred. However to provide another conventional term at the outset applicant originally described the item 102 at page 5, lines 4-5 in the alternative, giving both terms: "An exemplary handheld scanning appliance *or handpiece* 102 is provided." [emphasis added] If the examiner would prefer to change the order of these terms to render the statement more clear, then applicant would assent to such an amendment. However, applicant believes that this explanation on the record should server to clarify any remaining confusion.

The examiner has raised a double patenting rejection against claim 10, as being identical to claim 9. Claim 9 has been amended to depend from dependent claim 8, rather than independent claim 1, thereby addressing the rejection of claim 10, which still depends from claim 1.

The examiner has rejected claims 1, 2, 7, 9, 11, 12, 17, 19, 22, 23, 27, 29, 30, 34 and 35 (including all independent claims 1, 11, 23, 30 and 34) under 35 U.S.C. 102(e) as anticipated by Jansson et al. Jansson describes generally an apparatus and method for inspecting an array of electronic components using one or more line scanning devices and an illuminator. The examiner directs applicant's attention to Fig. 16, which is provided to show the subject matter claimed variously in the above-referenced independent and dependent claims. The examiner particular quotes in the Office Action Jansson's specification, which describes "A scanning device, which may be in the form of a high-resolution top linear CCD camera 222 is positioned over the substrate 216 and a high-resolution bottom linear CCD camera 224 is positioned below the substrate. . ." Referring to Fig. 16, the examiner quotes that "[t] illumination sources may include a number of serial illumination bars 226a-e, 228a-b, 230a-e, 232a-b. They can provide even illumination with different combinations, such as bright field, dark filed and a combination thereof with different functions achievable from the different effects. . . ." Particularly, "[i]llumination bars 228a-b may be used for dark field illumination of the upper surface of the substrate 216, whereas illumination bars 232a-b may be used for dark field illumination of the bottom surface of the substrate 216. The illumination from illumination bars 226a-e, 228a-b, 230a-e and 232a-b may be focused onto the surfaces of the substrate 216 as a strip of light using a cylindrical lens focusing system or light/guide/pipe system or other systems."

As shown and described, Jansson in claim 16 appears to provide a pair of opposed cameras with the substrate between them. The illumination is provided by a series of

light bars that are arranged in an arc around the top and bottom of the substrate at various angular positions on each side of each camera's optical axis. Some angles are adapted to deliver high-angle light and some are to deliver low-angle/dark field light. Each optical axis passes between the light bars on opposing sides. It is noted that, while the reference discusses a light pipe, there is no particular teaching as to the shape or arrangement of such a light pipe and each bar appears to be subject to guiding by its own light pipe according to the text.

It is well settled in the law of patents that, for a claim to be anticipated by a reference under 35 U.S.C. § 102, that reference must teach *each and every* limitation recited by the claim. See *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565 (Fed. Cir. 1986). In this regard, the examiner, respectfully, has not pointed out where each and every claim recitation of (for example) claim 1, meets the reference's teaching. Rather, claim 1 recites particularly:

a first ring light source arranged in a perimeter of a predetermined shape communicating with a first light pipe having a cross-section with the predetermined shape, the first light pipe defining *an inner lumen* through which the sensor views the subject and the *light pipe including a tip adapted to project a low-angle dark field illumination* pattern on the subject; and

a controller that selectively controls predetermined portions of the first ring light source to project a variable light around the perimeter.

As shown (See for example Fig. 3) and defined by applicant a ring light source is a structure with a perimeter shape that is regular or irregular. This entire ring communicates with the light pipe and that includes a tip that directs dark field light. A "lumen" is commonly defined as "the bore of a tube (as of a hollow needle or catheter)." See *Merriam-Webster's Collegiate® Dictionary, Tenth Edition*, Merriam-Webster, Incorporated 1994. Applicant's description defines a lumen of the light pipe with a diameter WL (Page 7, line 19), thus clearly describing a structure of such definition. No such luminal structure is present or contemplated in Jansson, which merely provides a series of separated, suspended bars between which viewing can occur. Applicant's claim further defines a "*tip adapted to project a low-angle dark field illumination* pattern on the subject." While there is a general reference to a light pipe in Jansson, it is only in the context of guiding the source light of individual light bars to the substrate. Each bar in Jansson is oriented at a separate angle to provide a resulting field orientation, and only two bars (on each side) appear to be dedicated to dark field. This does not constitute a "ring light source" in communication with a light pipe with a "lumen" that has a "tip" for projecting dark field illumination as taught and claimed by applicant. Rather, at most, there are taught by Jansson isolated bars with separate guiding pipes that project light from a non-ring structure (isolated points, in fact) outside of any lumen and no "tip" of the kind taught or contemplated by Jansson. Moreover, there is certainly no teaching in Jansson of a light pipe having a cross section of the same predetermined shape as the ring source. Rather, Jansson's proposed light pipes could not operate to direct light to the substrate having a cross section with a perimeter shape of the ring (to the extent a ring can be

gleened from the set of separated, suspended light bars. This proposed arrangement (i.e. a "ring" of bars defining a perimeter and a corresponding light pipe of that same perimeter) would necessarily direct light perpendicular to the substrate not at the substrate. Accordingly, claim 1 is not anticipated by Jansson and is allowable thereover.

Claim 11 further claims a second ring light source and associated light pipe. This claim is allowable for reasons applicable to claim 1 and moreover, the use of a second light pipe coaxial with the first pipe (including a cross section and lumen as described above) is not present in Jansson. Hence claim 11 is allowable over Jansson.

Claim 23 recites:

a ring light source arranged in a perimeter of a predetermined shape communicating with a *light pipe having a cross-section with the predetermined shape, the light pipe defining an inner lumen through which the sensor views* the subject and the light pipe including a tip adapted to project a high-angle bright field illumination pattern with respect to the subject.

Again, while the tip is employed for bright field illumination in this claim, Jansson nowhere shows or describes the ring light source communicating with a light pipe having a cross section of the same predetermined shape and defining the above-described lumen through which the sensor views the subject. This claim is allowable over Jansson.

Claims 30 and 34 also provide the above-described recitations as to a ring and a light pipe with a lumen. Thus these independent claims should be allowable over Jansson based upon the same reasoning as above.

The dependent claims herein should be allowable as providing further claim features to now allowable base claims.

Nevertheless, applicant will briefly address the examiner's proposed combination of Li with Jansson and Hattersley et al with Jansson to form rejections under 35 U.S.C. § 103(a) to make obvious the various dependent claims.

For a combination to be valid under Section 103, the examiner must show that there is some motivation in the art to those of ordinary skill for making this combination. The Federal Circuit has affirmed this requirement in the recently decided Teleflex, Incorporated and Technology Company v. KSR International Co. (Docket No. 04-1152, Decided January 6, 2005). In the case of the proposed combination with Li, there simply appears to be no relation between these references other than the term "light pipe" appears in both. While Li shows a variety of shapes for light pipes, there is no reason why these shapes would improve, or be applicable to the cursory teachings (on light pipes) described in Jansson. The use for such a geometry, rather is more clearly taught by applicant's own disclosure. To apply Li to Jansson, thus, at best implies the use of improper hindsight, having had the benefit of applicant's claimed disclosure. Also, even if combined, these references together would not generate applicant's structure with ring light source and pipe with lumen through which the sensor views, but rather a perpendicularly directed structure that points away from the subject/substrate.

With regards to the proposed combination with Hattersley, this reference teaches a pair of light pipes on opposing sides (in a non-luminal manner) of a sensor's field of

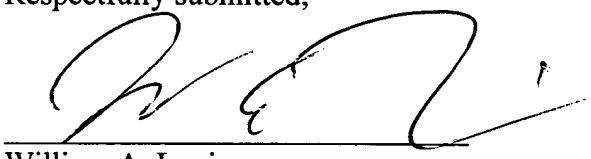
view that create dark field illumination. There is no motivation to apply these types of pipes to the bars of Jansson. Rather, the bars are already directed in a manner that generates bright filed and dark field illumination. Each bar is oriented to create the proper light in Jansson. Applying the tipped pipe of Hattersley to Jansson's light bars would, in fact, divert the light away from the orientation into which each bar is particularly placed. In this sense, Hattersley and Jansson actually teach away from each other, in that Jansson orients light sources specifically in the direction to create the proper filed (bright or dark) while Hattersley bends light at an angle (as opposed to the proposed "focusing" in Jansson) from a direct source into the dark field orientation.

In view of the foregoing, the claims should be in condition for allowance and each of the examiner's rejections has been traversed or addressed. Applicant therefore respectfully requests the examiner to issue a Notice of Allowance at the earliest possible date.

Applicant earnestly solicits the examiner to contact the undersigned by telephone call to advance the prosecution in any respect.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,



William A. Loginov
Reg. No. 34,863
CESARI AND MCKENNA, LLP
88 Black Falcon Avenue
Boston, MA 02210-2414
(617) 951-2500